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USDA-ARS-OFFICE OF TECHNOLOGY TRANSFER
NATIONAL CTR FOR AGRICULTURAL UTILIZATION RESEARCH
1815 N. UNIVERSITY STREET
PEORIA, IL 61604

EXAMINER

PAK, JOHN D

| ART UNIT | PAPER NUMBER |
|----------|--------------|
|----------|--------------|

1616

DATE MAILED: 10/21/2003

6

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/928585

Applicant(s)

ROJAS et al.

Examiner

PAK, J.

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136 (a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 8/4/03
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11; 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-5, 9-15, and 18-29 is/are pending in the application.
- 4a) Of the above, claim(s) _____ is/are withdrawn from consideration
- 5) ☒ Claim(s) 1-5, 9-11 and 26-27 is/are allowed.
- 6) ☒ Claim(s) 12, 18, 25, 28 and 29 is/are rejected.
- 7) ☒ Claim(s) 13-15, 19-24 is/are objected to.
- 8) ☐ Claims _____ are subject to restriction and/or election requirement

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgement is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
*See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. § 119(e).
a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s). _____ 6) ☐ Other:

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Claims 1-5, 9-15, 18-29 are pending in this application, and they will presently be examined fully herein, i.e. to the extent that they read on all glanded cotton phyllophage toxin, including said toxin in the form of extract of cotton seed or cotton seed oil (see original claim 9).

Claims 1-5, 9-11 and 26-27 are allowed.

Claim 24 is objected to under 37 CFR 1.75(c), as being of improper dependent form for failing to further limit the subject matter of a previous claim. Applicant is required to cancel the claim(s), or amend the claim(s) to place the claim(s) in proper dependent form, or rewrite the claim(s) in independent form. Claim 24 requires a solid form but the base claim (claim 12) has been amended to recite at least 50% water.

Applicant is advised that several new references have been found, and indication of allowability of several claims made in the previous Office Action must be rescinded in view thereof. A full discussion is set forth below.

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

(e) the invention was described in –

(1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent, except that an international

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application filed under the treaty defined in section 351(a) shall have the effect under this subsection of a national application published under section 122(b) only if the international application designating the United States was published under Article 21(2)(a) of such treaty in the English language; or

(2) a patent granted on an application for patent by another filed in the United states before the invention by the applicant for patent, except that a patent shall not be deemed filed in the United states for the purposes of this subsection based on the filing of an international application filed under the treaty defined in section 351(a).

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

- (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 12, 18 and 28 are rejected under 35 USC 102(b) as being anticipated by, or in the alternative, under 35 USC 103(a) as obvious over Miller et al. (EP 49705).

Miller et al. explicitly disclose a specific formulation that contains, inter alia, 13.75% hydrogenated cottonseed-soybean oil (Kaomel), 0.5% hydroxypropylmethyl cellulose, 0.5% cellulose gel and cellulose gum, emulsifier and 68.31% water. See Table 4 on page 12. Another formulation with slightly higher water content (70.31%) is disclosed on Table 6, pages 14-15. It is clear from the rest of the disclosure that the percentages disclosed are weight based percentages – see for example, page 9, lines 16 and 26; page 11, lines 4-5; *page 11, line 31*.

It is recognized that the rejected claims here, claims 12, 18, and 28 recite several features that are not explicitly stated in the cited reference. However, for the following reasons, the claims are still rendered anticipated or obvious.

A glanded cotton phyllophage toxin is required in the claims. Applicant's specification discloses that a phyllophage toxin is a plant produced compound that kills

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or debilitates organisms which feed on leaves (p. 16, lines 2-4). Many different compounds are disclosed (p. 17, paragraph [0037]). The specification also discloses that, "as a practical matter, it is envisioned that commercial formulations will be prepared from directly crude forms of the compounds, such as various glanded cotton and cotton seed products" (p. 18, paragraph [0041]). Various products are exemplified, such as cotton seed oil, and derivatized products such as soap (saponified oils) and sulfuric acid-treated soap stock (p. 19, paragraph [0042]). Therefore, applicant's description of suitable sources of the claimed glanded cotton phyllophage toxin is broad enough to reasonably encompass the hydrogenated cottonseed-soybean oil in the cited reference.

The claims also require that the concentration of the phyllophage toxin is not biocidal to the termite in the absence of an additional insecticidal agent. While the specification contains several discussions of concentration range that such functional language may encompass, there is no comprehensive disclosure as to what would constitute a non-inventive amount. Disclosures of preferred amounts or amounts to be used "typically" do not effectively put upper limits on the concentration. Here, the prior art discloses 13.75% hydrogenated cottonseed-soybean oil (Kaomel), which is not known to be otherwise termiticidal. Consequently, the concentration disclosed by the prior art is deemed to be within that of the claimed concentration feature.

Claims 18 and 28 require a humectant, but such a term is broad enough to include many substances, such as the emulsifier and soybean oil that are disclosed in the cited reference.

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The claims require "a cellulose-containing material effective as a food material upon which the termite will feed". Applicant's specification describes such cellulose-containing material to include various processed cellulose or cellulose derivatives such as hydroxypropylmethylcellulose (p. 24, paragraph {0051}). The cited reference explicitly discloses hydroxypropylmethylcellulose, as well as other cellulose products, cellulose gel and cellulose gum. Such cellulose-containing materials, which are present in the prior art formulation, would necessarily function as claimed since they are the same exact cellulose materials as applicant's cellulose materials.

Therefore, even though the cited reference does not explicitly state that its composition is to be used for baiting termites, the composition per se, with the same exact composition makeup, has been explicitly disclosed. There is nothing in the compositions disclosed by the cited reference that would prevent it from functioning as claimed. Same composition with the same makeup means that the prior art composition must have necessarily possessed the same properties. Under these facts, the claims are rendered anticipated or obvious; and a rejection under the alternative grounds of 102 or 103 is appropriate. MPEP 2112, 2112.01.

Claims 12, 18 and 28 are rejected under 35 USC 102(b) as being anticipated by, or in the alternative, under 35 USC 103(a) as obvious over McKibben (US 3,954,968).

McKibben et al. explicitly disclose a specific formulation that contains, inter alia, 5 wt% crude cottonseed oil, 5 wt% glycerol, 2 wt% hydroxyethyl cellulose, 5 wt% emulsifying agent, and 81.25 wt% water. See Example 1 on column 2.

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The rationale here is analogous to the previous ground of rejection over Miller et al. – the prior art composition contains the same ingredients as the claimed composition, and as a result, the same properties must necessarily be present. The crude cottonseed oil would necessarily contain the required glanded cotton phyllophage toxin; hydroxyethyl cellulose meets the required cellulose feature; glycerol and emulsifier meet the required humectant feature. The 5% concentration of crude cottonseed oil is not prohibited by applicant's specification – although the specification discloses an upper limit of 2.5 g/kg to be used "typically," it is not clear from applicant's disclosure that other concentration amounts would not be suitable for different termites or resilient colonies. There is nothing in the specification that clearly states that, with respect to all types of termites, a suitable concentration of glanded cotton phyllophage toxin cannot be contained in 5% crude cottonseed oil. Consequently, there is nothing in this prior art composition that would prevent it from functioning as claimed, even though use as a termite bait is not specifically disclosed. Under these facts, the claims are rendered anticipated or obvious; and a rejection under the alternative grounds of 102 or 103 is appropriate. MPEP 2112, 2112.01.

Claim 29 is rejected under 35 USC 102(e) as being anticipated by, or in the alternative, under 35 USC 103(a) as obvious over McKibben et al. (US 6,316,017).

McKibben et al. explicitly disclose a composition that contains 1-3 wt% crude cottonseed oil, insecticide (cyfluthrin), clay filler, ethyl alcohol, pigment, and shellac.

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Table 1, column 4, second and third weight ranges. See also Example 1 on column 7. The composition is applied to a substrate such as bamboo, paper, and wooden stake driven into the ground "in a location where it is desired to control or eradicate insects" (column 6, lines 4 and 60-64; column 7, Example 1; see also Figure 2). Beta-caryophyllene and beta-bisabolol may be included at 0.2-10% (column 4, lines 10-36).

For the reasons already stated earlier in this Office Action, it is believed that McKibben's 1-3 wt% crude cottonseed oil meets the claimed glanded cotton phyllophage toxin and concentration requirement. The paper substrate or wooden stake substrate clearly meet the cellulose feature. As for the additional insecticidal agent that is "a monoterpene derived from cotton effective to inhibit mixed function oxidases (MFOs) in termites," it is clear from applicant's disclosure that McKibben's beta-caryophyllene and beta-bisabolol would meet such claim feature. Applicant discloses in instant claim 23 that beta-caryophyllene and beta-bisabolol possess such functions.

Consequently, there is nothing in this prior art composition that would prevent it from functioning as claimed, even though use as a termite bait is not specifically disclosed. Under these facts, the claims are rendered anticipated or obvious; and a rejection under the alternative grounds of 102 or 103 is appropriate. MPEP 2112, 2112.01.

Claim 25 is rejected under 35 USC 102(b) as being anticipated by Silverman et al. (WO 99/08529).

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Silverman et al. explicitly disclose a method of controlling cockroaches by providing an active insecticidal agent, at least 2% cottonseed oil, on a substrate that can be paper, tissue paper, or cardboard. See claims 16, 20, 24-32; claims 26, 28, 30 and 32 in particular.

For the reasons stated earlier in this Office Action, it is believed that 2 wt% cottonseed oil meets the claimed glanded cotton phyllophage toxin and concentration requirement. The paper-based substrates clearly meet the cellulose feature.

Consequently, claim 25 is anticipated.

Claim 28 is rejected under 35 USC 102(b) as being anticipated by WPIDS abstract 1992-406126 (abstracting SU 1703030) for the reasons of record stated in Paper No. 4 with respect to the then-pending version of claims 1-16 and 20, and for the additional reasons set forth herein. See Paper No. 4, page 4. It is noted that the claimed "humectant" feature is broad enough to read on the fat and protein ingredients in the cited reference.

Applicant's remarks relative hereto, filed in Paper No. 5 (8/4/03) have been given due consideration, but they were deemed unpersuasive. Even though the cited reference discloses 0.07% bound gossypol and 0.01% free gossypol without specifying what type of percentage they were using, the ordinary skilled artisan would have understood such amounts to mean weight based percentages, because such percentages are used interchangeably for comparison purposes in the cited abstract (for example, 0.63 mg/kg chloroorganic pesticide is compared to 0.02% known method).

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Further, a different percentage would not make any sense in the context of the disclosure because there is a discussion of moisture content of the composition in terms of 6.5-10.5%. Moisture content of a solid or semi-solid substance is generally recognized as a weight based measure. Clearly, the ordinary skilled artisan would have recognized and interpreted the percentages in the cited reference as weight based percentages. The claim is anticipated.

For these reasons, these claims must be refused.

Claims 13-15^{and} 19-23 ~~and 26-27~~ are objected to as being dependent on a rejected base claim, but would be allowable if rewritten in independent form, which incorporates all of the features of base claim(s), subject to a search update at the time of the next Office Action.

A facsimile center has been established in Technology Center 1600. The hours of operation are Monday through Friday, 8:45 AM to 4:45 PM. The telecopier numbers for accessing the facsimile machines are (703) 308-4556 or (703) 305-3592.

Any inquiry concerning this communication or earlier communications from the Examiner should be directed to Examiner Pak whose telephone number is (703) 308-4538. The Examiner can normally be reached on Monday through Friday from 8:00 AM to 4:30 PM. If attempts to reach the Examiner by telephone are unsuccessful, the Examiner's Supervisor, Mr. Thurman Page, can be reached on (703) 308-2927.

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Any inquiry of a general nature or relating to the status of this application should be directed to the Group receptionist whose telephone number is (703) 308-1235.



JOHN PAK
PRIMARY EXAMINER
GROUP 1616